AMENDMENTS TO THE CLAIMS

Claims 1 and 2 (Cancelled).

3. (Previously Presented) A separation device comprising:

a feed channel including a shear region;

a plurality of permeate passages operatively associated with the shear region of the feed channel;

at least first and second flow/pressure control devices, each control device being arranged to control permeate flow or pressure within at least one permeate passage independently of the flow or pressure within another permeate passage; and

a porous medium positioned between the shear region of the feed chamber and the permeate passages, wherein the shear region is positioned along a first side of the porous medium and the plurality of permeate passages are positioned along a second, opposite side of the porous medium, each permeate passage fluidly communicating with the shear region through the porous medium.

Claims 4-13 (Cancelled).

14. (Previously Presented) The separation device according to claim 3, wherein each permeate passage has a width in a feed flow direction, and the width of the permeate passage in the feed flow direction corresponds to a segment of the shear region.

15. (Previously Presented) The separation device according to claim 14, wherein the width of each permeate passage in the feed flow direction corresponds to less than 75% of the shear region.

16. (Previously Presented) The separation device according to claim 14, wherein the width of each permeate passage in the feed flow direction corresponds to less than 10% of the shear region.

17. (Previously Presented) The separation device according to claim 3, wherein each permeate passage has a width in a feed flow direction, the width having a leading edge and a trailing edge, the width having a dimension that provides a difference in transmembrane pressure from the leading edge to the trailing edge on the order of about 10 psi or less.

18. (Previously Presented) The separation device according to claim 3, wherein each permeate passage has a width in a feed flow direction, the width having a leading edge and a trailing edge, the width having a dimension that provides a difference in transmembrane pressure from the leading edge to the trailing edge on the order of about 1 psi.

19. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices are arranged to control the permeate flow locally over a feed flow path length.

20. (Previously Presented) The separation device according to claim 19, wherein the flow/pressure control devices are arranged to provide local control of the permeate flow over a feed flow path length, wherein the local control corresponds to the widths of the permeate passages in the feed flow direction.

21. (Previously Presented) The separation device according to claim 19, wherein the flow/pressure control devices are arranged to incrementally control transmembrane pressure along the length of the shear region.

22. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices include valves.

23. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices include flow restrictors.

24. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices are arranged to supply permeate to a common permeate manifold.

25. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices are capillaries.

26. (Previously Presented) The separation device according to claim 3, wherein the flow/pressure control devices are orifices.

27. (Previously Presented) The separation device of claim 3 further comprising a spirally wound separation pack which includes the porous medium, wherein the feed channel extends axially through the spirally wound separation pack and the first and second permeate passages are isolated from one another within the spirally wound separation pack.

28. (Currently Amended) The separation device of claim ~~25~~ 27 wherein the porous medium comprises a first porous medium and the separation device further comprises a second porous medium positioned between a shear region of a feed channel and the permeate passages, the spirally wound separation pack including the first and second porous media, wherein a feed channel extends axially along first sides of the first and second porous media and the permeate passages extend between second sides of the first and second porous media, the permeate passages being axially spaced from one another along the separation pack.

29. (Currently Amended) The separation device of claim ~~26~~ 28 wherein the feed channel comprises a gap between the first and second porous media.

30. (Currently Amended) The separation device of claim ~~25~~ 27 wherein the spirally wound separation pack has first and second opposite ends and the feed channel extends axially between and opens onto the first and second opposite ends.

31. (Currently Amended) The separation device of claim ~~25~~ 27 further comprising a spool having one or more permeate passages, wherein the porous medium is spirally wound around the spool and the permeate passages in the separation pack fluidly communicate with the one or more permeate passages in the spool.

32. (Currently Amended) The separation device of claim ~~29~~ 31 wherein the control devices are positioned between the permeate passages in the spirally wound separation pack and the one or more permeate passages in the spool.

33. (Currently Amended) The separation device of claim ~~30~~ 28 wherein the control devices comprise orifices or capillaries.

34. (Currently Amended) The separation device of claim ~~25~~ 27 wherein the control devices comprise orifices or capillaries.

35. (Currently Amended) The separation device of claim ~~25~~ 27 further comprising a cylindrical shell, the separation pack being positioned in the cylindrical shell.

36. (Previously Presented) The separation device of claim 3 further comprising a cylindrical shell, a spool having one or more permeate passages, and a spirally wound separation pack, wherein the porous medium comprises a first porous medium and the separation device further comprises a second porous medium positioned between a shear region of a feed channel and the permeate passages, wherein the separation pack includes the first and second porous media spirally wound around the spool and has first and second opposite ends, the feed channel extending axially along the first sides of the first and second porous media within the spirally wound separation pack and the permeate passages extending between the second sides of the first and second porous media, wherein the permeate passages are axially spaced and isolated form one another within the spiral wound separation pack and fluidly communicate with the one or more permeate passages in the spool, wherein the control devices comprise orifices or capillaries positioned between the permeate passages in the spiral wound separation pack and the one or more permeate passages in the spool, and wherein the spirally wound separation pack is positioned within the cylindrical shell.

37. (Currently Amended) The separation device of claim ~~34~~ 36 wherein the feed channel comprises a gap.